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Step by Step Wire Jewelry

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๑ BEGINNER
Someone just starting out can complete this project and be happy with the results.

๑๑ BEGINNER/INTERMEDIATE
Someone who has had experience with the material can happily complete this project, but will also learn something new by doing it.

๑๑๑ INTERMEDIATE
A comfortable project for someone who has a good working knowledge of the material.

๑๑๑๑ INTERMEDIATE/ADVANCED
A project for someone who is ready for a more challenging approach to a material they have worked with repeatedly.

๑๑๑๑๑ ADVANCED
A good project for someone who is confident with the material and has had a lot of experience with the techniques.

Have a comment?
Whether it's a compliment or complaint, we welcome all reader responses. We can be reached through our Web site: www.stepbystepwire.com, by email at lj.editorial@primedia.com (type "Wire comments" in the subject line), or by snail mail to our new offices at 300 Chesterfield Parkway, Suite100, Malvern, PA 19355. Please send it Attn: Step by Step Wire Jewelry.

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Photo: Frank DeSantis.

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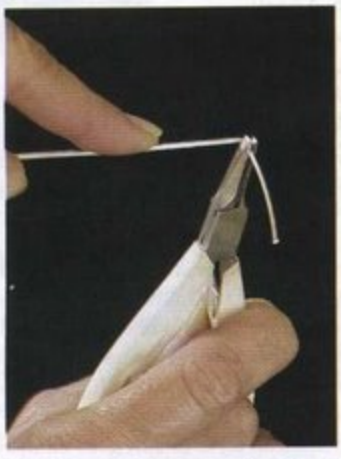
Wire Warts

If you're going to rate pesky problems in wire work, this one rates pretty high. Yes, wire warts are just what you think: those nasty little marks on the wire made with your pliers. After putting your best creative and technical skills into your design, it is so frustrating to see those unwanted and unintended marks! What can you do about it? Here are seven suggestions

- Take a close look at your pliers. Are the inner surfaces of your pliers smooth? Serrated jaws are not what you want for wire work unless you want texture! Do the jaws have any rough edges, marks, or rust? If they do, you can use an old file, abrasive paper, and steel wool to restore the finish.

- The quality of your pliers can make a difference. My first set of four pliers barely cost $20, and it showed — literally! It's very difficult to get good results from cheapo pliers. Buy good ones, the investment will pay off.

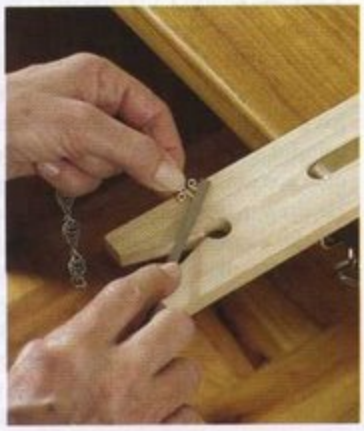
- A common mistake among newcomers to wire work is to apply too much pressure on your pliers, marring the wire unnecessarily. You might try working with copper wire until you loosen up a little.



- Use the correct pliers for the job. Round nose pliers make loops and curves. Flat nose pliers are for making angles and for grasping wire, although I think they slip a little more than chain nose pliers. Because the tips are tapered, chain nose plies are great for getting into small spaces. They also effectively grasp wire.

- Consider adding two pairs of specialty pliers to your tools: parallel pliers (with urethane jaws) and forming pliers (with one flat jaw and one round jaw). The parallel pliers are especially useful for grasping spirals, and the forming pliers will make loops and curves. Both will help preserve the finish on your wire.

- When you've made those deeper marks in your wire, it's time to bring out the heavy weapons! A set of flat needle files in coarse, medium, and fine cuts should do the job. Start with the coarse file and work down to the fine file until the mark is invisible. Finish with #000 or #0000 steel wool. If you have a flexible shaft tool, you can accomplish the same job lickety-split with silicone polishers.



- Oxidizing your jewelry in liver-of-sulfur will mask myriad imperfections. Clean the pieces with steel wool after you use the liver-of-sulfur, and if you want to get really fancy, you can then use a tumbler and steel shot to polish your pieces.

My last words on the topic of warts — metaphorically speaking, that is. Our work is gloriously handmade in a world that is all too often technical and machine-made to "perfection." Let at least some of these little marks have their place in our work — it's proof that our two hands created the work.

Connie Fox

has been making wire jewelry since 1996. She teaches classes in her studio in San Diego and at major jewelry and bead events including Jewelry Arts Expo and Bead Fest. She also is a frequent contributor to *Lapidary Journal* and *Step by Step Beads*. Connie learned jewelry making skills from Lynne Merchant and Deb Jemmot. Over a three-year period, Connie transitioned from being a full-time psychotherapist to working solely as a wire instructor and operating her internet jewelry supplies store, www.conniefox.com.

If you have a question on wire work that is itching to be answered or a tip you'd like to share with others, please let us know. We can't respond to each question individually but will select a few to answer in this column. Send your questions and tips to: cfox@san.rr.com, Subject: Wire-Wise; or Connie Fox, 2247 San Diego Ave., Suite 237, San Diego, CA 92110. And, please, let us know where you're writing from!

wireWORKSHOP

with NINA GRACI

Hot Wire

In the late 1920s, American artist Alexander Calder gave movement to sculpture by using wire to connect his colorful mobiles. Calder discovered that wire was not only accessible but also easily nudged into any art form. He drew wire portraits, created wire animals and acrobats for a miniature circus, filled his wife Louisa's kitchen with wire utensils and her bedroom wall with wire jewelry. Calder's pieces, made with intertwined gold and silver wire, remain a marvel of innovative one-piece construction. Clearly, like many wire jewelers today, Calder had "wire fever."

Wire jewelers find themselves irresistibly drawn to alter wire's straight line. Wire's malleability encourages experimentation, and easily gives shape, dimension, and texture to any design from delicate wire curls to bold wire-on-wire beads. Wire is user and pocketbook friendly: it is cheap, non-toxic, recyclable (precious metal scraps can be returned to the supplier for credit or additional wire), and portable. Using only round and flat-nose pliers, cutters, and a pair of hands, a few feet of wire can be wrapped, coiled, and twisted into solderless wire jewelry — anywhere.

Wire is accommodating and goes wherever it is bent. It meets the high expectations of mathematically precise pronged wire jewelry, holding gemstones securely in place and taking the heat when it is hammered or folded into freeform creations. Soft wire is easily manipulated into textile techniques like crocheting, knitting and weaving, macramé knotting and basketry's coiling, plaiting, braiding, and twining applications.

Wire also has magic qualities: just watch chain maker Carol Fisher Moch, author of *First You Make A Circle*, transform a handful of jump rings into a mystifying chain or honeycomb chain maille construction.

"The important thing to remember when making links for chains is that the mandrel and wire gauge must be compatible. I suggest starting with 14-gauge, half-round wire wound on a ¼-inch mandrel or using 16-gauge with half-round wire on a ⅜-inch mandrel. I usually reach for 14- or 16-gauge annealed wire, but have been known to make very large chains using 6-gauge, half-round wire using a ½-inch mandrel," says Moch.

Moch has been a wire jeweler and teacher for 40 years, so she knows "wire speak," the language peculiar to wire jewelers. And, when wire jewelers meet, it's all about wire: its shape, type, size, and temper.

WIRE YOU BENDING?

Shape.

Now that jewelers no longer have to pull wire through drawplates or strip copper wire from cables to get the gauge and shape they want, they can conserve their energy for mulling over the daunting variety of wire shapes available today. Square, rectangular, triangular, oval, half-oval, hexagonal, octagonal, half-round, low-dome, flat, patterned, and twisted plus colored wire in 50 colors and 14 gauges further adds oxygen to the wire jeweler's hyperventilation.

Type.

Gold wire is the most expensive of the wires due to a glow that neither tarnish, corrosion, nor time can diminish. A karat number indicates gold's purity, thus 24-karat, or fine gold, is 24/24, 100 percent gold, 22-karat (22/24) is 91.7 percent gold and so on down to 10-karat gold (10/24), which is 41.7 percent gold. Gold goes far: an ounce of gold the size of a sugar cube can be hammered into 108 square feet of gold leaf or pulled into a thread fifty miles long.

Gold-filled wire is an affordable alternative to solid gold wire. Sometimes referred to as rolled gold wire, the variety of shapes, sizes, tempers and white, yellow and rose colors, makes it a favorite of wire jewelers. It is made by forming gold into a tube that is filled with jeweler's brass, giving gold-filled wire a 5 percent gold content.

Gold-plated wire has a thin layer of 10K gold electroplated onto a base metal surface. The gold layer is much thinner than in gold-filled wire.

Pure silver's 99.9 percent pure content makes it a very soft metal, too soft for many jewelry and hollowware applications. Sterling silver is 92.5 percent pure silver hardened by the addition of 7.5 percent copper. Nickel silver, also known as German silver, does not contain any

silver. It is a combination of roughly 65 percent copper, 18 percent nickel, and 17 percent zinc. When 5 percent tin is added it is called Alpaca silver. Of note, about one person in 20 is allergic to nickel silver.

Colored wire.

Colored wire adds zest and playful exuberance to wire jewelry. Permanent colored wire has a colored coating that is baked onto copper and silver-plated wire. Aluminum wire undergoes an electrochemical process that produces a clear oxide layer on the surface of the metal. This surface, which looks like a metal sponge under a microscope, is extremely porous and hard. Colored dye or ink is deposited into the pore structure and sealed, locking in the color and stabilizing the surface, producing lightweight, color-saturated, aluminum wire.

"Color becomes the metal because it fills the pores so it won't chip off. However, strong as it is, when working with anodized aluminum, we recommend using nylon-tipped tools," says Abbey Lawhorn, Sales and Marketing Director at EastWest DyeCom.

Measurement.

Wire is measured by the thickness of its diameter, or gauge, according to the American Wire Gauge (AWG) standards (formerly the Brown and Sharpe Wire Gauge). To determine its thickness, wire is placed into one of the graduated notches along the edges of a round steel circle, called a gauge plate. One side lists gauge numbers and the opposite side has their decimal equivalents in inches or millimeters. The higher the gauge number, the smaller the wire. Thus, 34-gauge wire is hair thin and 6-gauge wire is thick as a pen. Jewelers prefer wire sizes ranging from 10- to 36-gauge. Wire conversion charts make ordering wire and planning projects easier and there are many around. Wire Wizard Preston Reuther's site contains most of them, including those listing amount of wire per ounce and weight per foot of wire (www.wire-sculpture.com).

Applications.

As the saying goes, when working with wire, there are 10 rules and 1000 tricks. Each jeweler may have a favorite gauge and wire type; however, when it comes to textile techniques such as knitting, crocheting, plaiting, braiding, and weaving, only thin 28- to 34-gauge wires are supple enough to accommodate the contortions of these techniques. Bezel settings, bindings, and ear wires need strong, mid-size 20- to 22-gauge wires while jump rings and finger rings need the reliability of very strong 10- to 16-gauge wires.

Temper.

Temper is a measure of wire's hardness and springiness as well as its ability to hold its shape and bend fluidly. Hardness or malleability is graded dead soft, quarter hard, half-hard, hard, and spring hard. Sometimes wire's temper is designated by number from zero to 10, indicating the number of times it has been pulled through the progressively smaller holes of a drawplate. However, for the most part, a simpler way to remember temper is that dead soft wire, which bends like a noodle is zero. It becomes progressively harder until it reaches #4 spring-hard wire, so resistant to bending it makes perfect pin backs. Anything harder than #2 (called half-hard wire), is too stressful for hands.

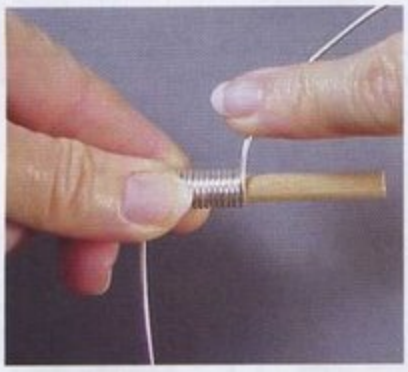
Each wire temper has its own characteristics. Although dead soft wire is easily wrapped, coiled, and sculpted, it will not hold its shape unless it is hardened by overwork, hammered with a rubber mallet or tumbled. Half-hard wire is strong enough to bind wire bundles and hold light components, but heavy elements and reliable clasps require hard wire. Dead soft, half-hard, and spring hard are the most commonly used tempers for wire jewelry.

Full circle.

Dead soft wire can be hardened by overworking, hammering it, pulling it through a drawplate, or passing a polishing cloth over it repeatedly. Luckily, when working with wire, what is done can be undone, and work-hardened wire can be returned to a soft state by twisting it into a loose coil and annealing it. Wire is annealed by passing a torch flame over it evenly until the ends achieve a red glow after which it is quenched in water or pickle.

Making jump rings.

Wrap 20" of 16-gauge, dead soft, sterling silver wire around a dowel or tube that is 1/4" or less in diameter. Keep a tail in your non-wrapping hand so that you have something to hang onto. Wrap away from your body and keep the coils as close to each other as possible. When you reach the end of the wire, reverse the direction of the dowel and wrap the tail onto the dowel. Remove the coil from the dowel.



With your chain nose pliers, gently pull the coil apart so it will be easier for you to make your cuts. Blunt-cut the end of the coil with your flush wire cutters (flat side of the cutters will be toward your body).

Reverse your pliers so that the beveled side of your cutters now faces your body. This will result in both ends of your jump ring having blunt cuts. Snip the second coil right above the end of the first coil. You have now made one jump ring. To continue, repeat the same process. Blunt-cut the end, reverse your pliers and snip off your jump ring.

Opening and closing jump rings.

Grip one end of the jump ring with your chain nose pliers and the other with your flat nose pliers. You can also use 2 pairs of bent nose pliers. Toggle the two ends back and forth 3-4 times to work-harden the metal. When you want to open and close jump rings, use this same motion.

Creating a wrapped loop.

Using flat nose pliers, grasp the head pin just above the last bead and bend it to a 90° angle. Grasp the wire approximately 1/16" from the tip of your round nose pliers, right next to the bend, with one jaw above the bent wire and the other jaw below it.

Rotate the bent wire up and over the top jaw of your pliers until it is almost pointing straight down.

Remove the pliers and place the bottom jaw in the loop you have just formed. Grasp the wire with your fingers (or chain nose pliers) and bend it snuggly around the bottom jaw, behind the straight part of the wire, bringing it back to a 90° angle.

Grasp the loop flat between the jaws of your flat nose pliers so it doesn't become distorted during the wire wrapping process. Using your fingers (or chain nose pliers), wrap the wire around itself a minimum of 2 times in nice, neat coils. Trim the excess wire as flush as possible with wire cutters. Using the tip section of your crimping pliers, very gently compress the coil to eliminate any rough edges.

woven fan pendant

Simple wire weaving.

SKILL LEVEL ❍❍❍❍

BY MARIE SCARPA

The beauty of wire weaving work is its intricacy and fine detail, the same qualities that can make it appear a daunting skill. Some pieces are much more complex in design and technique than this piece is, but this design is fairly simple to achieve with some basic metalworking skills.

TOOLS & SUPPLIES

- 18" silver box chain, 1mm
- ¼" x 1¼" 20-gauge silver sheet
- 6" 20-gauge round silver wire
- 48" 26-gauge fine or sterling silver wire
- Silver solder, medium and easy
- Mini torch or other torch
- Nylon or leather mallet
- Ring or bracelet mandrel
- Center punch
- Foredom or other flex shaft w/split mandrel, Moore's disc mandrel & fine sanding discs, steel brush & soft felt buff
- Drill bits, #52 & #67
- Ruler or sliding gauge
- Compass
- Sandpaper, 600-grit
- Borax/Alcohol or other anti-fire scale solution
- Flux
- Solder pick
- Shears or solder snips
- Soldering tweezers, locking tweezers
- Pickle pot/copper tongs
- Diagonal cutters
- Tripoli or white diamond buffing compound
- Zam®
- Chain nose pliers
- Buffer (optional)
- Tumbler with steel burnishing media (optional)

Photo of finished piece by Frank DeSantis; all other photos courtesy of the author.

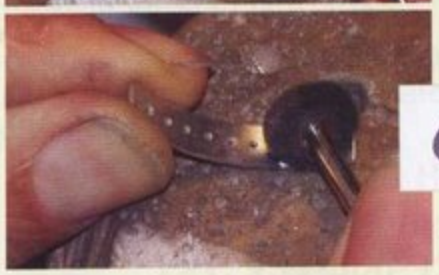
1 Measure and mark the center of the sheet using the ruler or sliding gauge.

2 With the center punch, mark the center and 4 marks on either side of the center, spaced 3mm apart.

3 Drill end holes with a #52 drill bit (1.61mm/.0635"). Drill 7 center holes with a #67 drill bit (.81mm/.032").

4 Shape the silver sheet by tapping it with a nylon or leather mallet on the largest end of a ring mandrel or smallest end of a bracelet mandrel. Just a slight curve is all you need.

5 Hand sand or use a flex shaft with a split mandrel and 600-grit sandpaper to clean up any burrs or scratches on the silver sheet.



6 Follow with a soft felt buff and Tripoli to polish any sandpaper marks out, or buff on buffer.

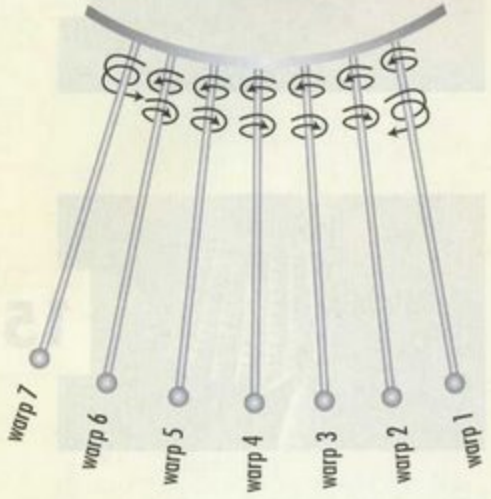
With diagonal cutters, cut the 20-gauge round wire into seven 1" pieces and two 3/8" pieces. Dip the wires in anti fire scale solution and then dip the ends in flux (this helps the ends of the wire to bead up more evenly). With the torch, melt the two 3/8" pieces of wire until they form round beads.

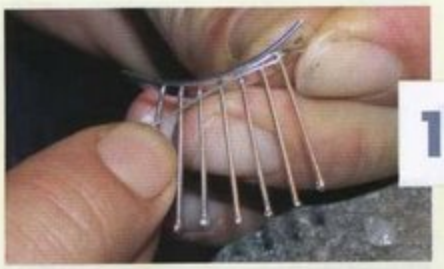
Carefully melt the ends of the seven 1" pieces of wire until a small bead forms. Pickle the seven wires & two beads. Remove them from the pickle pot with copper tongs and rinse in water. Set the beads aside for step #10.

Slide the seven wires through the seven center holes of the curved silver plate. Repeat the balling up of the opposite ends of the wire as described in step 7. Be careful to only bead up one wire at a time and try to keep the beads equal in size. Pickle and rinse.

Solder each beaded end of wire to the concave side of the silver plate. Pickle and rinse. Lightly buff (optional). Brighten the finish of the framework with a steel brush on your flex shaft. Additionally you may choose to tumble it with steel burnishing media.

This completes the construction of the framework, you are now ready to weave. You can either do a traditional over-and-under style of weaving, or as I prefer, wrap each warp (vertical) wire for a more interesting textured look. This method also lends a bit more strength to the piece. Either way it is important to maintain just the right amount of tension on the weft (horizontal) wire in your hands as you are weaving. Too much tension will bend the warp wires and change the shape of the fan. Too little tension will result in unevenness. Fine silver wire is quite soft and easy to work with in your hands, it just takes a little experimentation to see what is most comfortable for you. You can even up minor imperfections with your fingernail or an X-Acto® blade as you go, or when you're done weaving.





11 Starting at the top right (this will be the front) with the 26-gauge wire, wrap the wire all the way around warp #1. Leave at least a ½" "tail" of wire at the back.

12 Moving from right to left, repeat wrapping each warp wire.

13 On warp #7, wrap the wire around 1½ times and bring the wire up between warp #7 and #6.

14 Repeat wrapping each warp from left to right. On warp #1 wrap wire 1½ times and bring the wire up between warp #1 and #2.

Continue wrapping from right to left as before. Continue in this manner until you reach the balled up ends at the bottom of the fan of warp wires. Wrap the wire to the back of either #1 or #7 and trim with diagonal cutters.

15

HINT: As you weave, make minor adjustments to the warp wires with your fingers or chain nose pliers to maintain the fan shape. Make tension adjustments by pulling the 26-gauge wire toward you and away from you as you work, rather than side to side. This will also help maintain the shape.

Using easy solder, tack solder the wire at the back of the piece. Trim the beginning "tail" of wire to ⅛" and with a very small flame, carefully ball up the beginning "tail" of wire.

Using diagonal cutters, cut box chain in the center. Thread each cut end of the chain through the end holes of silver plate so that the cut ends are on the same side as the woven fan.

Using easy solder, solder one silver bead to each chain end. Pickle and rinse. Reshape the warp and weft wires as needed. Using Zam® and a soft felt buff, lightly buff highlights.

Variations: Now that you've been introduced to the basics, feel free to experiment. Try fewer or more warp wires (odd numbers work best). Mix colors of wire, try copper, brass or gold. HINT: Make sure you begin with your wire annealed dead soft.

Wrap some of the warps on top and then change direction and wrap some of the warps underneath. Compare the texture difference between the front and the back of the piece, the back of the piece is what wrapping underneath the warps looks like.

SAFETY TIPS: Always use common sense and proper eye protection when working with flex shafts and buffers. Use care, eye protection, and proper ventilation when soldering.

Marie Scarpa
is an independent designer and goldsmith from Petaluma, CA. Her specialty is hand woven, one-of-a-kind pieces as well as limited production collections. She is the recipient of First Place in the Silver category of the 2003 Saul Bell Awards sponsored by Rio Grande for her "TriAngle" pendant and was a 2004 Niche Award finalist for her "Vee" necklace. Marie can be contacted via her Web site www.mariescarpadesigns.com or by e-mail at mariescarpa@netscape.net.

Free Form

Easy wire earrings.

SKILL LEVEL

BY BARBI JO STIM

Photo of finished piece by Frank DeSantis; all other photos courtesy of the Eric Smith.

TOOLS & SUPPLIES

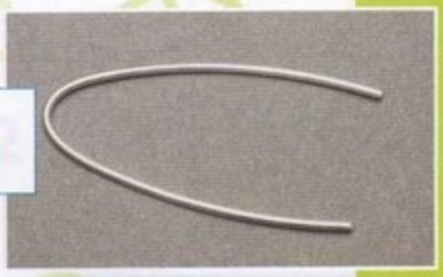
- 16-,18-,20-gauge round, dead soft sterling silver wire
- Flush end cutters
- 2 pair of flat pliers, one narrower than the other
- 1 pair of flat/round pliers
- Rolling mill or a forming hammer
- Sanding wheel for polishing machine or flat file
- Sparkle machine or ability to solder for the post earrings of 1 pair of French earring wires
- Flux
- Medium solder
- ½" sterling earring post
- 3⁄16" wooden dowel or 3⁄16" metal dowel
- 3M Sponge Sanding pad - fine (for matte finish)
- 3M light green radial discs (6) (for shiny finish)

When I first started making jewelry I had very little experience working with metals. With little knowledge of soldering and limited resources, I did a lot of gluing (very unconventional) and wire bending. Wire bending can be spontaneous, fluid, and sculptural and uses few tools. Just bend the wire and a see where it takes you.

This project is for a pair of earrings so the measurements should be precise if you want the earrings to match. I usually cut and bend the two lengths of wire at the same time. The instructions below are worded for making a pair of earrings simultaneously. Also, you'll see that these instructions are for a soldered post. As an alternative, you can do away with the top portion of this earring and just make the bottom half. Then hang them from French wires and you won't need any soldering equipment.

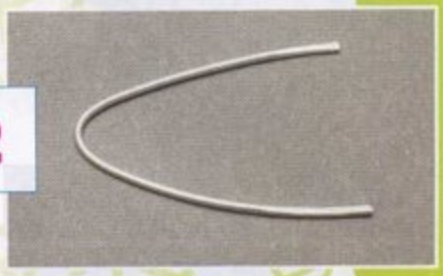
For the top portion of the earring, cut two 2" lengths of 16-gauge round silver wire. Use flush cutters so that all the cut ends are flat. Using flat nose pliers, bend each wire in half to a 45° angle.

1



Use the rolling mill or a forming hammer and flatten one end for about a quarter of an inch, and the other end for about three quarters of an inch. File the flattened ends until they are smooth.

2



Holding a flat/round pliers with the round side in the inside of the 45° angle just below the longer rolled surface, bend the wire inward keeping your thumb on the lower portion of the wire to keep it steady. Hold the original 45° angle between your thumb and first finger with the end of the newly formed triangle facing toward you. Place your flat nose pliers on the unbent wire ⅛" above the top of the triangle. Bend the wire at a 90° angle. With a narrow pair of flat nose pliers, bend the end of the wire just below the flattened edge and make another bend. If you're making posts, solder a post to the middle of the flattened overlapping wire. I use a Sparkie for soldering.

3

For the bottom portion, cut two 5 ¾" pieces of 18-gauge round silver wire.

With flat nose pliers, bend the wire 1¼" from one end into a 45° angle. Make another bend ¾" from the end of that wire so that you have now formed a triangle with ⅜" wire overlapping.

4

Using round nose pliers, take the wire at the end of this piece and roll it so that you make a loop over the wire.

5

6 Make a bend with the flat nose pliers 3" from the other end of the wire. Make another bend 2" from the end of the wire so that 1½" of wire is overlapping. Take the flat/round pliers and start bending the wire so that it zigzags down the triangle.

7 After these next two bends there should be ⅜" of wire overlapping. Finish this piece off with a loop, as you did in step 5.

8 You can join the two pieces with sterling wire or a contrasting wire such as copper, brass, or gold-filled. Cut 6" of 20-gauge wire and roll it over a 3/16" dowel. With flush cutters, make a clean cut at the end of the wire. Go down four loops and make a flush cut in the spring. You should have four complete loops.

9 With flat nose pliers holding down half of the circle, take another pair of flat nose pliers to hold down the other half and bend upward with the first pair of pliers at a 90° angle to form a small loop. Repeat this on the other side.

10 Take the top piece and slip it into the loop. The back of the loop and the earring post should be on the same side. Using flat/round nose pliers, with the round side in the inside of the loop, bend it down inside the spring to make a secure closure.

11 Join the bottom piece to the bottom of the spring with the joined loop-ends facing in the same direction as the open end of the spring. Join the open end of the spring again with the flat/round nose pliers.

Polish the earrings with light green 3M® radial brushes to give it a shiny finish. If you don't have a polishing machine, you can sand it with a fine 3M® sponge sanding pad for a matte finish.

12

Barbi Jo Stim

has been making women's fashion accessories for over 20 years. Her jewelry consists of primarily sterling silver with accents of other metals and resins. She also designs pouches for cell phones and glasses in her lovely studio in Berkeley, California. You can view her line at www.barbini.net

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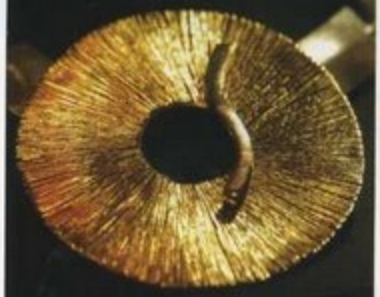

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Life's a Charm

A wirey, fun charm bracelet.

SKILL LEVEL ❂❂❂

BY CONNIE FOX

Part I of II

My fascination with charm bracelets began with a sleepless night. Why toss and turn when you can play with wire, right? Into the studio, and like a woman gone mad, I turned, twisted, looped and coiled until charms emerged from the wire. The following instructions will guide you in making a foundation for your charm bracelet plus five charms. Look for the next issue of *Step by Step Wire Jewelry* for an additional five charms. This project is intended for people who have basic wire skills (able to make coils, spirals, jump rings, and eye pins). If you are just starting out, please practice the basics first so your journey into the world of charm bracelets will be successful. Instructions for these basic skills can be found on my Web site at: http://www.conniefox.com/Education/WireSkills/Basic%20Wire%20Skills.htm or Tips on page 11.

TOOLS & SUPPLIES

Photo of finished piece by Frank DeSantis; all other photos courtesy of the author.

- Chain nose pliers
- Flat nose pliers
- Long round nose pliers
- Small round nose pliers
- Flush cutters
- Ball peen hammer
- Steel bench block
- Permanent marker such as a Sharpie®
- Ruler
- Industrial tube wringer
- Beads that will accommodate 18-gauge wire
- 16-gauge jump rings to connect components (5mm ID)
- 16-gauge round dead soft wire, 10'
- 18-gauge round dead soft wire, 5'
- 24-gauge round dead soft wire, 6'
- 14-gauge wire, 4½" (if you want to make a swan clasp)

Please note: *The wire lengths above are estimates. You will be able to make more than one sample of each charm with the amounts I have listed.*

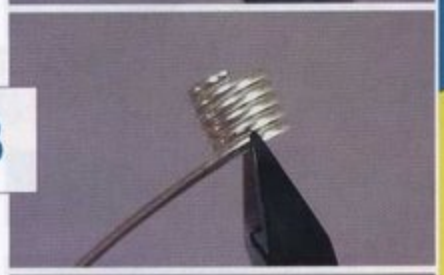
Note to all you south paws: *I did my best to try and reverse instructions for your left handed use. In some cases I got so turned around I thought it best to drop the effort.*

Building a foundation: the garage door spring.
This link provides a strong foundation for your charm bracelet and gives you adequate space from which to hang dangles. I learned to make this link from Lynne Merchant.

Work directly from your coil of 16-gauge round wire to make the garage door springs. You will waste less wire with this approach. Flush cut the end of the wire. (Flush cut the ends of all wires for each of the 5 charms also). Grasp the end of the wire at the base of your long round nose pliers. Make sure no wire is peeking through. Rotate your hand away from your body to form a loop.

Continue to turn your pliers away from your body — the wire you are now coiling should be below the loop you just made.

Keep coiling at the base of the pliers until you have made 5 complete revolutions. With your flush cutters, slice the end of the wire.



Hold the coil so that one end is at 12 o'clock. With your small round nose pliers, pinch between the first and second coil to create a little space. You will be pinching between 12 and 6 o'clock.

Holding firmly onto the coil, place the end of the wire so that it is at 10 o'clock (2 o'clock for lefties). With your flat nose pliers, place the edge of the pliers at 4 o'clock (8 o'clock for lefties).

Rotate your hand toward your body until you form a half-loop.

Repeat the same procedure at the other end of the coil. You may need to adjust your half-loops so the end of the wire does not overlap the side of the coil. Sometimes the half-loops are turned in different directions. I don't mind this, but if you do, you can turn them so they are aligned.

Join the garage door springs with jump rings until you achieve a good fit for your wrist. Allow about 1" for the clasp. If you want to use a swan clasp, the directions may be found here: http://www.lapidary journal.com/stepbystep/apr03bangle.cfm

The bell.
Cut 8" of 16-gauge round wire. Grasp the end of the wire in the tips of your small round nose pliers. Turn your hand away from your body to form a loop.

Continue rotating to begin a spiral. Grip the beginning spiral at the base of your chain nose pliers and continue to spiral until you have 4" of wire left.

You will spiral the other end in the opposite direction from your first spiral. Start by making a loop in the *middle* of your small round nose pliers, not the tips. You want this loop to be large enough to form a bail.

Continue to spiral until you meet the first spiral.

Hold the spiral so that you see the shape of an "S".

Insert the tips of your small round nose pliers into the center of the top spiral. This should be the spiral with the larger central loop. Push the center through so that the spiral opens up.

Turn the piece so that the punched out spiral is pointing toward the floor. Grasp the space between the two spirals with the tips of your chain nose pliers and push the flat spiral and the punched out spiral toward each other until they meet.

Adjust the top of your bell so that the spirals are equidistant from one another.

Holding the bell firmly, with your flat nose pliers grasp the area that is opposite the end of the wire. Rotate your hand toward your body. The bail should be perpendicular to the platform of your bell.

From here on it is all about futzing. Maneuver the bail so it is lined up in the center of your bell. Also make sure the bail forms a complete loop. This may require some adjusting with your small round nose pliers. Readjust the space between spirals if needed. Open the platform to introduce a small oval bead.

Double vision spirals.
Cut 8" of 18-gauge round wire. With your flat nose pliers make a right angle in the middle of the wire (4" on each side of the bend).

17 Place your small round nose pliers parallel to one of the two wires; the second wire will be extending to your left (to your right for lefties). Grasp the upper wire with the tips of your small round nose pliers and as close to the bend as possible.

18 Rotate the upper wire away from your body and around the small round nose pliers. Form a complete loop and then continue to create a spiral for 1½ revolutions. I know it is strange having a wire sticking out from the center of your spiral.

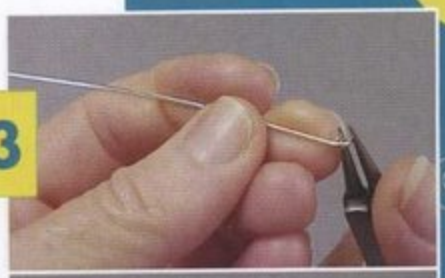
19 With your flat nose pliers grasp that funny wire sticking out from the center and continue to spiral.

20 Once the spiral is large enough to hold onto, grasp the spiral with your flat nose pliers and complete the spiral. You have just made what I like to call an "inside spiral".

21 At the end of the inside spiral make a small loop in the middle of your round nose pliers.

22 With your flat nose pliers grasp the central loop above the area where that weird wire is sticking out. Bend the 4" piece of wire down so that it is opposite the loop you made in step 21.

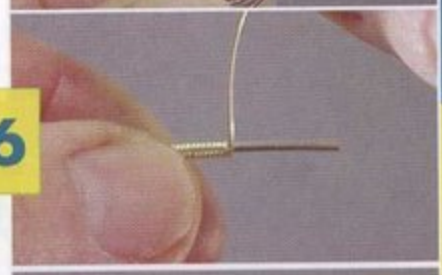
Place your completed spiral so that it is facing the ceiling. At the end of your 4" piece of wire, and using the tips of our small round nose pliers, make a small loop rotating your hand away from your body.



Form a spiral until it reaches the first spiral you made.

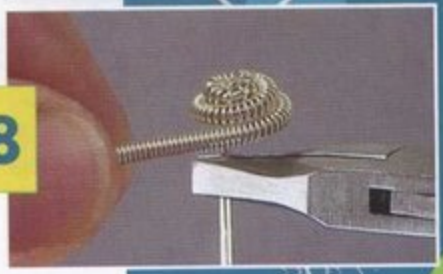
Place your flat nose pliers over the central loop of the top spiral and align the bottom spiral with the top one.

The acorn.
Cut 8" of 18-gauge round wire. Coil 24" of 24-gauge round wire onto your 18-gauge wire. Be patient, it takes a while. Leave the coiling on the 18-gauge wire.



Mark your 18-gauge wire with a permanent pen 3" from the end. Remember how to make an "inside spiral?" Well, here we go again. Place the tips of your small round nose pliers at the 3-inch mark. The 3-inch extension will be parallel to your pliers and 5" will be extending to your left (right for lefties).

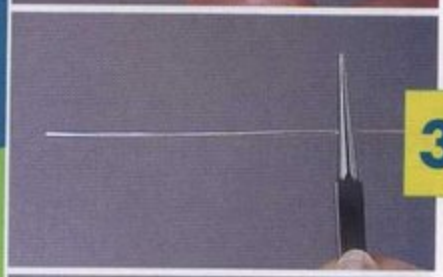
Follow steps 18 and 19 from double vision instructions. There are a couple small differences. After starting your loop with the round wire, grasp onto the coiling and continue to spiral. You also will be cupping the spiral. You do this by spiraling just below the previous spiral. Your coils will appreciate it if you hold the central wire with your flat nose pliers until you finish the spiral. Stop spiraling when you reach the end of your coiled wire.



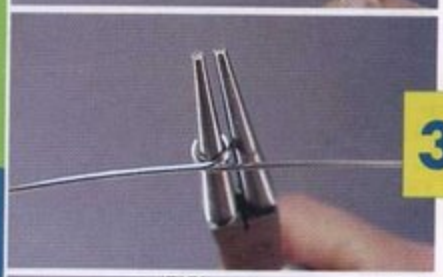
29 With the remaining round wire extending from your coiled spiral, and going in the opposite direction, make a spiral.

30 String your bead onto the 18-gauge wire that is extending from the middle of your coiled spiral. String the 18-gauge wire through the center of your second and smaller spiral.

31 Pull the 18-gauge wire completely through the small spiral. Press the small spiral against the top of your bead. Make a wrapped eye pin.



32 **Double loop head pin.**
Cut 5" of 18-gauge round wire. Mark the middle of your long round nose pliers with a permanent pen. Mark your wire at the 3½ inch mark. Line up the middle of your long round nose pliers on this 3½-inch mark on the wire. You will have 3½" to your left and 1½" to your right.



33 Rotate your hand to form a loop (short wire swings under the long wire).

34 Remove your pliers and place the top prong into the loop and the bottom prong opposite the loop at the joint.

Rotate the left wire around the bottom prong.

Remove your pliers and place the top prong into the developing loop.

Continue wrapping the top wire until you achieve a figure eight with the wires extending from either side.

Place the component so that the longer wire is off to your left. The right one (shorter) will be on the side closest to your body. This wire should be a little shorter than the left wire. Spiral the right wire to meet the figure 8. The spiral will be perpendicular to the figure eight.

Place a bead on the long wire and make a single eye pin.

Twilight zone.

Cut 5" of 16-gauge round wire. Place the Industrial Tube Wringer at the edge of a table so that the handle is free to rotate.

Open the jaws of the Industrial Tube Wringer and insert the wire between the rollers leaving ½" of wire in front of the rollers. This area will not be corrugated. Guide the wire between your index and third fingers. Use your hand to put pressure on the jaws of the Industrial Tube Wringer. You may want to practice with copper to achieve the optimum pressure. Too much pressure and you risk weakening the wire to such an extent it may break. Too little pressure and you will be just short of the twilight zone.

40

Rotate the handle counter-clockwise. The wire will pass through the rollers corrugating it as it moves through. Leave about ½" at the end. This area will not be corrugated.

Make a spiral leaving some space between each ring. Uneven is good — remember, this is the twilight zone!

Form a loop at the end with the non-corrugated section of wire. Hammer the spiral.

Congratulations, you are now ready to attach your charms to the bracelet with jump rings. Add as many dangles as you wish. But leave some room for the charms we'll make in the next issue of *Step by Step Wire Jewelry*. My philosophy — you can never have too many dangles dancing on your wrist!

Connie Fox

has been making wire jewelry since 1996. She teaches classes in her studio in San Diego and at major jewelry and bead events including Jewelry Arts Expo and Bead Fest. Her column, Wire Wise, appears in each issue. She is also a frequent contributor to *Lapidary Journal* and *Step by Step Beads*. Connie learned jewelry making skills from Lynne Merchant and Deb Jemmot. Over a three-year period, Connie transitioned from being a full-time psychotherapist to working solely as a wire instructor and operating her internet jewelry supplies store, www.conniefox.com.

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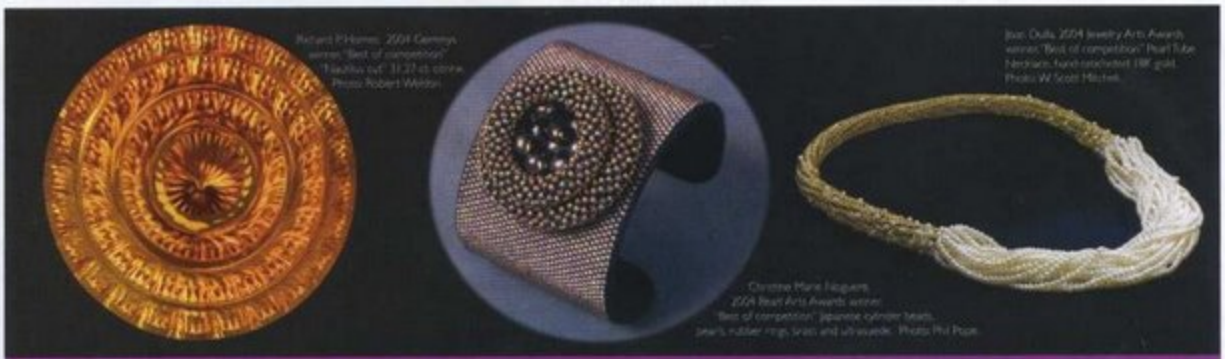


www.lapidaryjournal.com/contest

the Arrow bracelet

A wire craft classic.

SKILL LEVEL ⊙⊙

BY KATRINA MEYER

Everyone has a few favorite pieces of jewelry that seem to go with every outfit and every occasion. Wire craft jewelry also has several classic designs that are always in style, lend themselves easily to variations, and can be worn alone or attractively mixed with other items of adornment.

The arrow bracelet is one of those timeless designs that will invite you to dream up a multitude of variations. With all gold-filled smooth wire and beads, it makes a clean, classy statement. Twist some of the wires or use corrugated beads and the bracelet seems to twinkle at you. For greater contrast, mix sterling silver beads with gold-filled wire or vice versa. Match the colors in your favorite outfit with glass beads.

As you can tell, this is one of the most versatile bracelets I make, and one of the funnest. I hope it will be for you, too. All the beads and wire used for this project are 14 karat gold-filled. As a skill level of 2, you will need to already know how to make binding wraps and bundles, and which tools do what jobs. I hope you'll share your experiences with me after you've made at least one. Happy crafting!

TOOLS & SUPPLIES

- 2" of 22-gauge half-round half-hard gold-filled wire
- 3 pieces of 22-gauge square half-hard gold-filled wire, 8" long
- 2 pieces of 22-gauge square half-hard gold-filled wire, 18" long
- 1 piece of 20-gauge half-round half-hard gold-filled wire 18" long
- 63 gold-filled smooth round 3mm beads
- Flat nose pliers
- Chain nose pliers
- Round nose pliers
- Diagonal (flush) cutters
- Ruler
- Masking or quilters' tape
- Pair of hemostats
- Diamond file
- Cleaning cloth
- Permanent marking pen, ultra fine point

Optional Tools:

- Magnifying glasses
- "Looper" pliers (one round, one flat jaw)
- Rouge-treated polishing cloth or liquid cleaner (I prefer Speedbrite)

Photo of finished piece by of Frank DeSantis; all other photos courtesy of the author.

Preparation.
Measure and cut all the wire (as listed). Clean and straighten each length of wire using a treated jewelry polishing cloth or a small piece of soft fabric dampened with lighter fluid.

1

Getting it together.
Mark the center of the two 18" square wires.

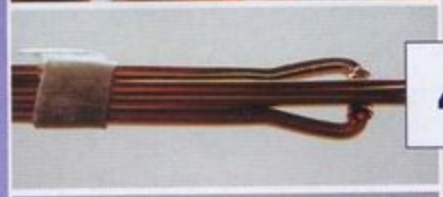
With the 2" of 22-gauge half-round wire make 6 binding wraps around the two square wires, 3 on each side of the center mark. This wrap wire will keep the eye wires together and give more strength and durability to the eye.

2

With flat nose pliers, shape the eye by bending the wires 90° at each end of the binding wrap and mark the wires ⅜" down from each bend.

3

At this mark, bend the sides in toward each other to create a base of the eye and for the 3 center wires to fit snugly.



4

Insert the three, 8" wires and extend them ¼" – ⅜" beyond the wrapped tip of the eye. Be sure the cut ends of the eye wraps are on the same side. Tape the bundle about ½" past the base of the eye.

5

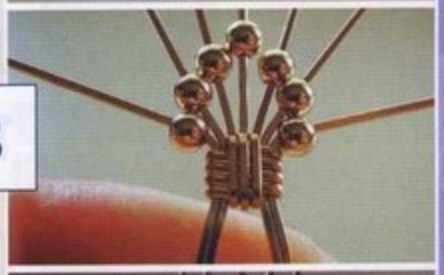
Using about 2" of 20-gauge, half-round wire, wrap 4 times at the base of the eye. Bend the 3 center wires over the binding wraps on the inside (or "wrong" side) of the bracelet. Cut them off ⅛" past the last wrap.

With the tip of the chain nose pliers, bend the cut ends down at almost a right angle and flatten all 3 wires over the binding wraps. This ensures the cut ends are not exposed. Now remove the tape.

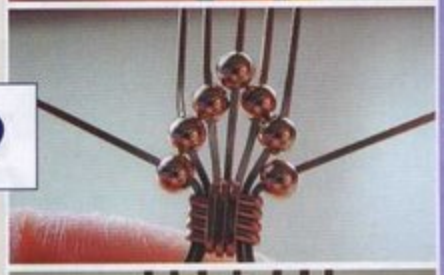
Putting on the beads.
Spread out the wires one at a time, beginning with the outermost one. With your fingers, bend the outside wires almost flat and fan the rest out evenly, leaving the center wire alone.

Put one 3mm bead on each wire, beginning with the outer wires and working inward. Arrange the beads in the form of an arrow or upside down V.

To keep the beads in the desired form, hold them on the wires between the thumb and forefinger of your non-dominant hand. When you have the beads on 3 wires on one side, turn the bracelet around to work on the other side. Put the center bead on last.



Use your fingers to gently press the wires, one by one, toward the center wire, beginning with the wires next to the center, alternating sides.



Turn the bracelet around to bend in the outside wires. Using the same hand will give more uniformity to the shape and size of each section.

Making the sections.
Hold all the wires together, turn them so the inside of the bracelet is facing up toward you, then clamp on the hemostats snugly in front of the single bead at the tip of the arrow. This keeps the beads in order and all the wires flat.

12 Squeeze the wires together with flat nose pliers and wrap 3 times with a bit less than 2" of 20-gauge half-round wire.

13 Wrap once, release the hemostats and finish the binding.

Pulling the first wrap wire around with flat nose pliers will give a tighter fit to the bindings.

14 File the cut ends and secure in place.

15 Repeat the above steps until the desired length has been reached. Each section measures about ¾"; nine sections makes a 7" bracelet. Sizing can be done by varying the length of the hook and/or eye, as well as the number of sections.

As you add on sections, keep the bindings straight between them and straighten the bracelet as you progress.

16 **Coming to the hook end.**
After the 9th section, wrap with half round wire 4 times and fold over the last 2 wires on each side so they are parallel to the bracelet.

17 Trim to ⅛" past the end of the binding, as you did at the eye end of the bracelet.

With chain nose pliers, bend the tips down at almost a right angle and flatten the 4 wires against the binding wraps, so the cut ends are not exposed.

18

Making the hook.
You now have the 3 center wires to use for the hook.

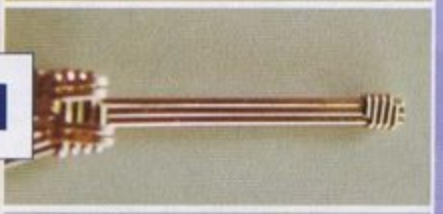
19

For a finished bracelet size 7", mark the wires at 7/8" and wrap 4 times with about 1" of 22-gauge half-round wire.

20

Wrap tightly and cut off the excess on the 3 wires.

21



Fold the wrapped tip over and flatten.

22

Form the hook with round nose pliers or specialty pliers called loopers. I prefer loopers for shaping hooks on bracelets and bails on pendants — better control and less marring of the wire.

23

Finishing.
Shape the bracelet with your fingers, a bracelet mandrel or graduated sections of plastic PVC pipe, available at The Home Depot.

24

25 To make closing the bracelet a bit easier, slightly bend up the tip of the eye with your flat nose pliers.

26 To make the hook fit firmly in the eye, use a pocket knife blade to gently spread the hook wires where they curve.

Polish your finished classic and enjoy!

Katrina Meyer
attended the William Holland School of Lapidary Arts in Young Harris, Georgia. After her first week of learning wire craft jewelry making, she became enchanted with this manner of creative expression. For the past nine years she has combined precious and semi-precious gems, glass and colored stones to create her wire wonders. She teaches wire craft near her home in Venice, Florida and can be reached at 941-484-1435 or Katriname@earthlink.net.

Egyptian Clasp

Timeless hook and eye closure.

SKILL LEVEL

BY KATE DREW WILKINSON

When I was living in Costa Rica nearly thirty years ago, I made jewelry with the beads I carried around in a little saucepan in my bags. I used the local wire, called Alpaca, along with clasps I brought with me from the USA. Inevitably, my clasp supply ran out, so I had to find an alternative closure for my necklaces.

I thought about it long and hard, and decided to put myself back in time — to work out how it was done in Egyptian times, for instance. I wanted to turn wire into something more than a rudimentary S-hook and loop. So, I bought some cheap wire from the local store (knowing I would go through quite a bit before I got it right), and the clasp you see in this project is the one I have been making ever since.

When making a necklace out of ancient beads, or in some kind of really tribal style, a modern clasp can spoil the authentic look of the piece. I also worked out how to make the clasp with two rings on the attachment end, which gives it balance and allows it to be used as a hook and eye, or as "frogging," which is useful to weavers and leather workers. And when this clasp is made with 24-gauge wire, and as small as possible, it's also wonderful for doll jewelry. There are no clasps that I know of that are small enough for a Barbie Doll choker.

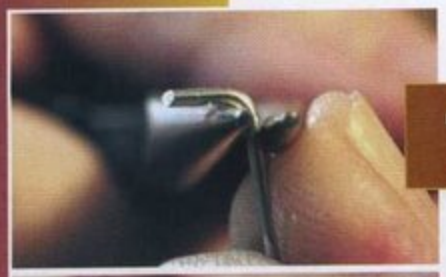
This style of clasp has been around since wire was invented. Etruscans made wire by cutting a fine strip of flattened gold, which was then wound over and over into a spiral. The spiral strip was then hammered flat and drawn through a hole, to make it round. Egyptians also worked many of their clasps the same way, and now we will do the same.

TOOLS & SUPPLIES

- Round nose pliers, a larger size than you usually use if you have them, but any regular sized pair will do.
- Flush cutters.
- Bent nose pliers.
- 2–3' of 18-gauge half hard wire
- Copper wire, for practice

Photo of finished clasp by Frank DeSantis; all other photos by Jim Mahoney

Egyptian Clasp



1

Creating the hook.
Cut a piece of wire approx. 8" long. With the tip of your round nose pliers, make a right angle, leaving ⅛" at the end.

2

Grasp the longer part of the wire with your round nose pliers, right by the right angle. Using the top jaw of the pliers as a mandrel, bring the longer part of the wire up and over the pliers until it is almost pointing straight down. Remove the pliers and place the bottom jaw in the loop and continue wrapping the long wire around the bottom jaw until your circle is complete.

3

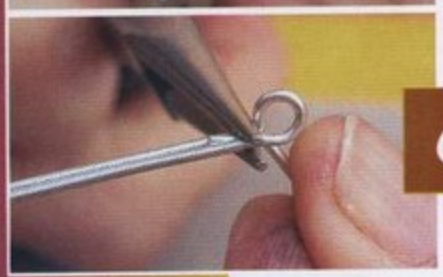
Remove your pliers and place the loop in the top jaw, then bend the long part of your wire so that it's parallel with the original short end.

4

With the tip of your round nose pliers grip the long wire approx. 1¼" from the end and bend the longer part of the wire back down towards your first loop.

5

Squeeze the "u-turn" with your pliers. This will result in the 2 lengths being parallel and will ensure that the tip of your future hook will have style!



6

Grip both wires above the first loop and bring the remaining length of your wire to a right angle. This photograph was taken just before I reached that right angle.

Bring the wire around the pliers tip, using the tip as a mandrel, just before beginning the wind.

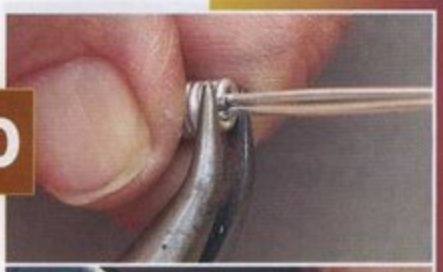
Holding both rings in one side of the pliers, begin to bind the 2 wires together.

It's important to keep the wire you are winding at a right angle to the work. This is generally a good practice when doing bead wirework.

Snip the wire at a spot right between the 2 wires. Make sure you cut the tip of the wire so that the end is between the 2 parallel wires. (If you cut the tip at the side of the turn, it will create a burr that will scratch and is liable to catch on hair or clothes.

The slight torque you see in the photograph with the cutters has been deliberately shown, because it often happens at this point and it's important to know that it can be easily remedied with a quick squeeze with your curved nose pliers at this point.

Pinch the cut end with your curved nose pliers.



Bend the tip of the hook-to-be back just a little bit.

12 Grip the piece just above the coil and bend the wire 45°.

13 Grasp the wire on the other side of the bend (away from the coil). Using the larger round part of your pliers (toward the jaws), bring the wire around the bottom jaw to form the hook.

14 Gently adjust the whole hook until you end up with an appealing shape. Now you can see why you gave the tip that little bend in Step 11!

15 **Making the eye of the clasp.**
Cut a piece of wire approx 6" long; the eye uses less wire than the hook. With the top of your round nose pliers, make a right angle, leaving ⅛" at the end.

16 Grasp the wire close to the right angle, with the short part of the wire pointing up and the longer section pointing to your right. Using the pliers as a mandrel, bring the longer end of the wire down around the bottom jaw of the pliers to form part of the loop.

17 Remove the pliers and place the loop in the jaw of the pliers, with the short section facing down and the long section to your right. Continue your loop, bringing the long wire around the bottom jaw of the pliers until you have a circle.

Remove your pliers and reposition them so you can bend the long end of the wire up until it's parallel with the short end. (Now we'll take a different direction from the hook making process.)

Grip the 2 parts of the wire firmly with your pliers, at a right angle to the loop. The direction of the wire will be moving sideways. You might want to look at the picture of the finished piece at this point to see what I mean. Carefully push the long wire to a right angle at the point where the short end of the wire ends. The direction of the right angle must be away from the short end.

Grasp the wire with the large part of your pliers, toward the jaws, allowing you to wind the wire into a circle. You will be using the jaw of the pliers as a mandrel. Complete the circle.

Grip the wire with the tip of your pliers where it meets the 2 parallel wires and bend it until there are 3 parallel parts, the shorter length in the middle.

Grip the 3 wires with the tip of your pliers. You will be making the second loop.

Make a right angle.

24 Fit your pliers snugly into the first ring and bring the wire around to match it, so that the 2 rings are the same size.

25 You may have to turn your pliers around a little, but don't remove them from the rings.

26 Then wind your long wire around the "neck" where the 3 parts of wire are waiting to be wrapped.

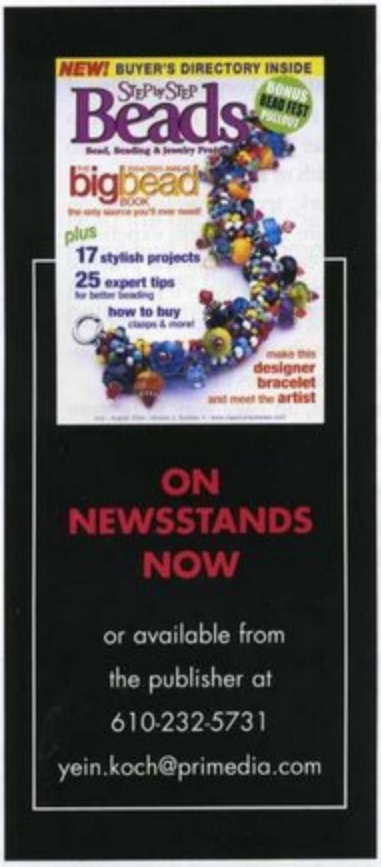
27 Make sure your wrap is tidy and you keep the wire at a right angle as you wrap, otherwise it might look messy.

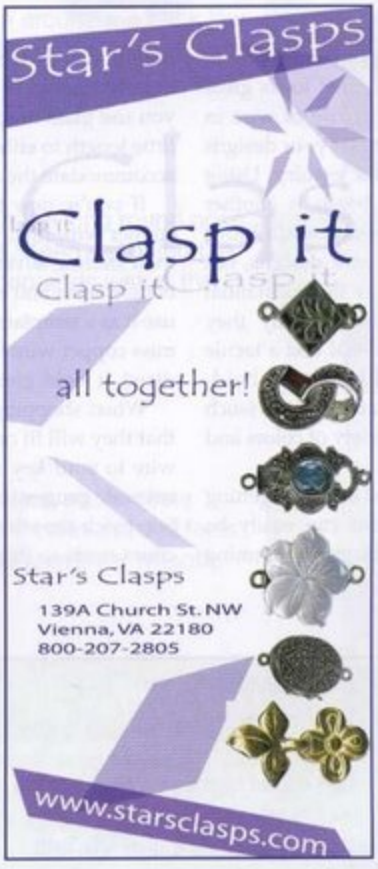
28 Using flush cutters, cut the wire as shown, centered rather than off to the side (where it could catch hair, or snag clothes).

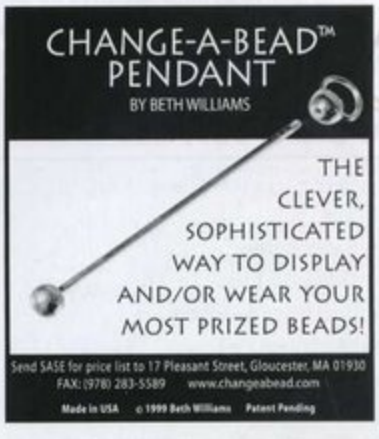
29 Pinch the burr tight against the wire underneath with your curved nose pliers.

When you put the hook and eye together, the hook should hold the eye securely because its coil should line up with the turned-out tip. You'll hear a little clicking sound as the loop of the eye passes over the wind on the hook. Try making the clasp with different sizes of wire. It's difficult at first but so worthwhile! Oh yes, practice makes perfect. Now try to make them in different sizes.

Kate Drew-Wilkinson
has been a frequent contributor to *Lapidary Journal* over the years and has just released her fourth video, *Lamp Work Bead Jewelry Design Made Simple*. Learn more about Kate's work and videos on her Web site, www.katedrewwilkinson.com or via e-mail at beads@theriver.com.



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elegant and fun!

Jointed wire bangle.

SKILL LEVEL

BY NICHOLE BYERS

This jointed wire bangle is a relatively easy way to create a one-of-a-kind piece of jewelry that looks great and reflects your individual style. The use of wire in your handcrafted jewelry is one way to set your designs apart from the crowd of handcrafted jewelry. Using beautiful, quality artisan lampwork beads is another (make sure the ones you buy are kiln-annealed!) I love using lampwork glass beads in my wire designs, not just because I make them, but because the substantial weight of glass beads coupled with the way they sparkle is pleasing to me on both a visual and a tactile level. You can find many wonderful lampwork bead-makers selling their work on Internet auction sites (such as eBay®, or Justbeads.com), with a variety of colors and styles to please every taste.

The most difficult part of the jointed bangle is getting the fit right, but any sizing problems can easily be solved either by adding extra jump rings or trimming one or two of the core wires with flush cutters. This bracelet should fit a 6¼" wrist, but keep in mind that if you use glass beads that are thick, you'll need to add a little length to either the center or the side core-wires to accommodate the added width of the beads.

If you're new to wire work, try this project out on copper wire first. Copper wire is much less expensive than sterling silver, and you can either cut the practice bangle apart and re-use the beads, or keep it intact and use it as a template for sterling silver bangles. Don't dismiss copper wire for your jewelry designs — when oxidized, it looks great with many styles of beads.

When shopping for beads, an easy way to be sure that they will fit on 14-gauge wire is to attach a scrap of wire to your key ring using a simple eye loop. I have several gauges of wire attached to my key ring. Sandwich the wire scraps between keys or grocery discount cards so they don't poke out.

TOOLS & SUPPLIES

- Flush cutters (adequate for heavy gauge wire)
- Flat nose pliers
- Chain nose pliers
- Long round nose pliers
- Short round nose pliers
- Ball peen hammer
- Steel bench block
- Coiling Gizmo® (econo-winder model, available at craft/hobby stores)
- Tape measure
- Jeweler's file
- Light colored hand towel, pad, or tray (for working on)
- 2' of 14-gauge sterling silver wire, dead soft
- 2' of 20-gauge sterling silver wire, dead soft
- 3 lampwork glass beads, about 10-12mm from hole to hole
- Greek ceramic beads: 8 - 6x4mm silver ceramic; 2 - 8mm colored; 2 - 8mm silver spacers (available from www.ConnieFox.com)
- 6 large Bali-type bead caps
- A few Bali spacer beads and small bead caps that will fit on 14-gauge wire

Photo of finished piece by Frank DeSantis; all other photos courtesy of the author

To make a hook closure, cut a 3" length of 14-gauge wire, and make sure each end is flush cut. Hammer one end of the wire so that about ¼" is slightly flattened.

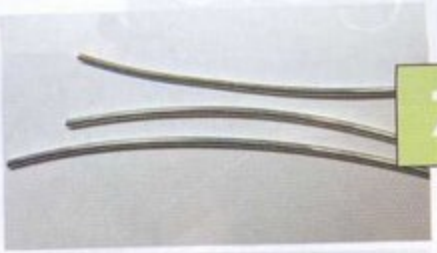
Grasp the hammered end of the wire with your small round nose pliers, near the tip, turn your pliers away from you, making a small curl with the hammered end. You can use your flat nose pliers to tighten the curl, but be careful not to pinch your fingers.

Using long round nose pliers at the base, grasp the wire, with the curl facing you, about ⅛" below the curl. Wrap the tail end of the wire around the back jaw of the pliers, so it meets the curl end, making a hook.

Hold the tail end of the hook with the long round nose pliers and form a complete circle. Keep wrapping the wire around the pliers until the loop ends just at the bottom of the curled end.

Trim the excess wire with flush cutters, so the circle ends right at the back of the hook. If either cut end feels rough, file it down with a jeweler's file until it's smooth.

Use the small crank wire on the Coiling Gizmo® to coil two feet of the 20-gauge wire. Make sure to keep each wrap tight and as close to the last wrap as possible. Two feet of 20-gauge wire should give you a coil measuring just over 2".



7 Cut 3 pieces of 14-gauge wire: one 3½" long, and two others 3¼" long. Make sure both ends of each wire are flush cut. These pieces make the core wires for the bracelet, and can be shortened later, if needed.

8 Use the remaining 14-gauge wire to make 4–8 jump ring. Grasp the wire toward the back of the jaw on your long round nose pliers. The jump rings we want should be about 6–7mm in diameter. Make sure both ends of the jump ring are flush cut so the ends meet properly.

9 Place a focal bead in the center of the 3½" length of 14-gauge wire then place a large silver bead cap on each side. On each side, add a 6x4mm silver-coated ceramic bead, one Bali spacer, one colored ceramic spacer, another Bali spacer, another 6x4mm silver-coated ceramic bead, and another Bali spacer or small bead cap.

10 You may need to add or subtract beads to fit the core wire and still allow for the eye loops. Each loop requires ¾"–1", depending on what position on the pliers jaw you use to make the loops. I mark my pliers with a permanent marker so I use the same spot on the pliers to make loops and jump rings consistent in size.

Make an eye loop on each end of the core wire.

11 Make an eye loop on one end of each of the remaining 3" pieces of 14-gauge wire. Then add a 6x4mm silver/ceramic bead, a large Bali bead cap, a lampwork bead, and another large bead cap. Add more beads and/or a length of the wire coil you made earlier, again leaving enough room for the eye loop.

12 Use two jump rings to attach each side piece to the center piece. You can use one jump ring on each side, but I think that two jump rings make it look more substantial.

Attach the back of the hook to one of the eye loops, then hook the clasp into the other eye loop. If you need extra length, use a jump ring or two to attach the hook to the bracelet. Make a few final adjustments to the shape of the bangle, and you're finished! If the bracelet is too small, add some heavy jump rings to extend the clasp. If it's too large, gently straighten out an eye loop, trim the base wire, and remake the loop. You will also have to trim the last coil so you can make the eye loop again.

Nichole Byers

is a full time mom, jewelry designer, and lampwork bead maker who once again resides in her home state of Illinois, after many years in Minnesota. She is hopelessly obsessed with lampwork beads and wire jewelry, and her handcrafted jewelry and beads are available on eBay®, or at her Web site, www.nicholebyers.com.

ladder pendant

Photo of finished piece by Frank DeSantis; all other photos courtesy of the author.

Mixing wire gauges with beads.

SKILL LEVEL

BY DIANNE KARG BARON

I love working with very fine gauges of wire and the textures that can be created with it. This little pendant was inspired by the designs of Cynthia Darling, whose work, like mine, were published in Barbara McGuire's book *Wire in Design* (2001, Krause Publications).

Because of the fineness of the wire used in this project, some people may find it helpful to wear an Optivisor, or to use a jeweler's loupe, to get a better view. Fine silver is more ductile than sterling, and so lends itself better to this project.

TOOLS & SUPPLIES

- 4" (10cm) 20-gauge (.81mm) half-hard round sterling silver wire
- 24" (61 cm) 28-gauge (.5 mm) dead soft round fine silver wire
- 2mm beads, 7
- A commercial omega neck wire
- Round nose pliers
- Flush-cutting wire nippers
- Permanent marker
- Measuring tape
- Masking tape
- Jeweler's file
- Rouge cloth
- Optivisor or jeweler's loupe (optional)

Clean and straighten the 20-gauge wire using the rouge cloth. Cut a piece 4" (10cm) long. Measure and mark the midpoint of the wire using the permanent marker.

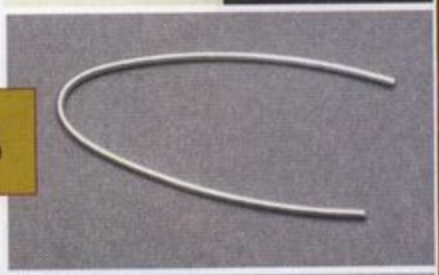
1

Measure 5mm from the tips of the round nose pliers and wrap a small piece of masking tape around one of the tines. Alternatively, use the permanent marker to mark the pliers.

2

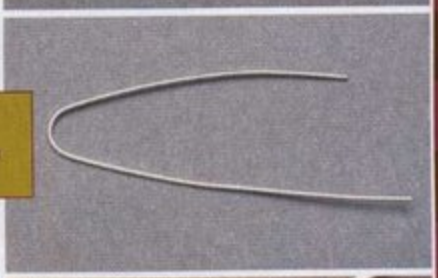
Grasp the midpoint of the wire at the masking tape mark and bend the wire on either side of the pliers, creating a U-shape.

3



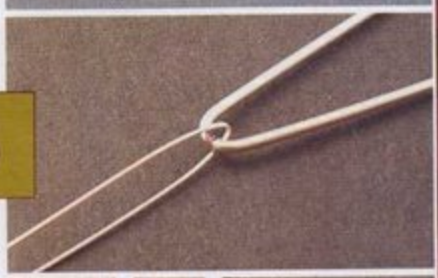
Clean and straighten the 28-gauge wire using the rouge cloth. Cut a piece 24" (61 cm) long. Measure and mark the midpoint of the 28-gauge wire. Using the round nose pliers, bend the wire in half at the midpoint.

4



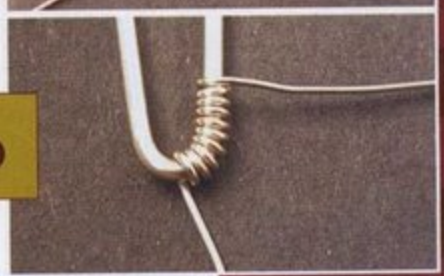
Hook the 28-gauge wire on the bottom of the 20-gauge U-shape.

5

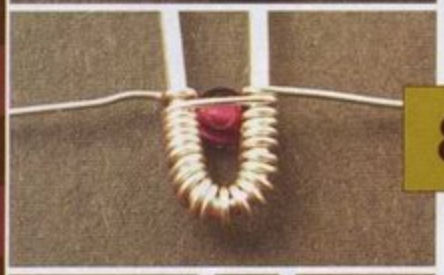


Grip one of the free ends and start coiling it around the 20-gauge wire. Continue coiling until you've made 10 revolutions. Repeat on the other side with the other free end. The free wires should end on opposite sides.

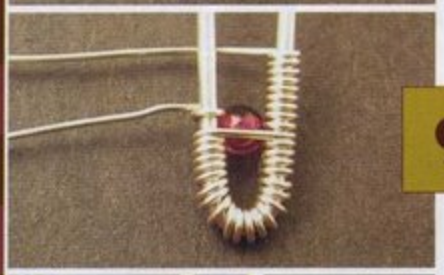
6



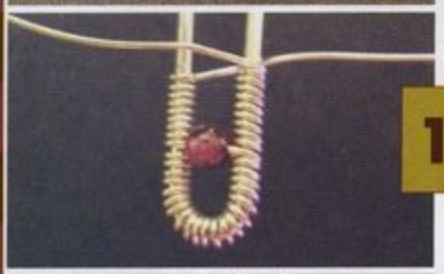
7 Feed a 2mm bead onto one of the free wires. Bring the wire across to the other side, and coil the wire once around the opposite arm of the U-shape. This side is now the front of the pendant.



8 Flip the pendant to the back. Bring the free wire to the other side and coil the wire once around the opposite arm of the U-shape.



9 Check to make sure all of the coiling is tight. Then continue coiling the wire until you have made nine revolutions, ending on the front of the pendant.



10 Repeat on the other side with the other free wire, ending on the front of the pendant.

11 Repeat Steps 7-10, until all 7 beads have been added to the pendant.

Add 5 more revolutions of coiling to each arm of the U-shape. Trim off the wires on the inside of the U-shape using the flush-cutting wire nippers and press them flush.

12 From the end of the coiling, measure ½" and trim the 20-gauge wires.

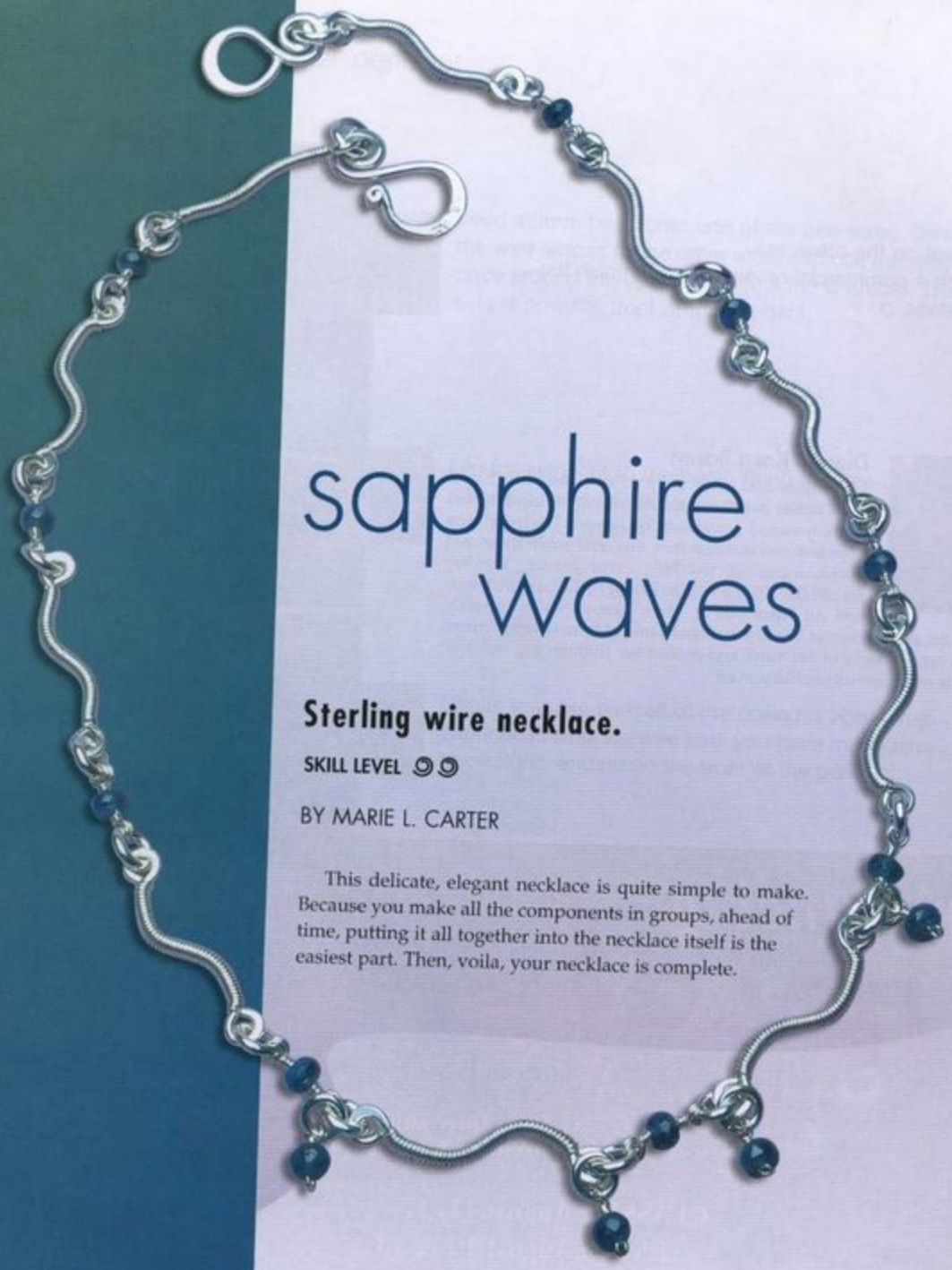
File the ends of the 20-gauge wire with the jeweler's file. Using the round nose pliers, grip the end of one arm of the 20-gauge wire at the tape mark. Turn a loop into the wire.

Repeat on the other arm.

Add a commercial omega chain to finish the necklace.

Dianne Karg Baron

Metalsmith and wire art jewelry instructor Dianne Karg Baron has been creating jewelry using precious metal wire and gemstones for 10 years. Her work has been featured in magazines, fine craft publications and books, including *The Wire Artist Jeweller, Lapidary Journal* (Jan. 2002), *Wire in Design* by Barbara McGuire, and *All Wired Up!* by Mark Lareau. She is currently serving as president of The International Guild of Wire Jewelry Artists. You can see more of her work and contact her through her web site: www.wrapturewirejewellery.on.ca



sapphire waves

Sterling wire necklace.

SKILL LEVEL

BY MARIE L. CARTER

This delicate, elegant necklace is quite simple to make. Because you make all the components in groups, ahead of time, putting it all together into the necklace itself is the easiest part. Then, voila, your necklace is complete.

TOOLS & SUPPLIES

- Round nose pliers
- Chain nose pliers
- Flat nose pliers
- Long round nose pliers
- Flush cutters
- Ruler
- Chasing hammer
- 16-gauge round sterling dead soft wire, 10"
- 18-gauge round sterling dead soft wire, 22"
- 26-gauge round sterling dead soft wire, approx. 125"
- 26-gauge round sterling half-hard wire, approx. 36"
- 16-gauge 6mm sterling silver jump ring, 2
- 18-gauge 4mm sterling silver jump rings, 22
- 3mm sapphires, 13
- Optional: Tumbler (with stainless steel shot, plastic pellets, gentle liquid soap)

Photo of finished piece by Frank DeSantis; all other photos courtesy of the author.

Creating the waves.
Cut a 1¾" length of 18-gauge wire. Hammer each end of the wire a bit, 2 taps each. Place this flattened end halfway down the round nose pliers so that the edge of the wire is just inside the pliers; turn the pliers once (overhand) to make a loop.

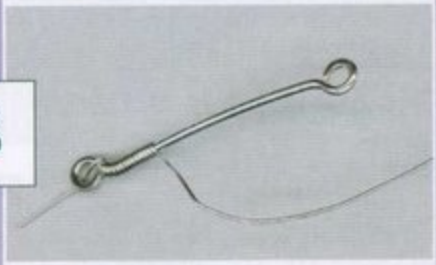
1

Loosen your hold and swivel the pliers back a bit, within the loop, and bend back a bit to center the loop over the extended wire. Hammer the loop — just a bit. Repeat on other end of wire. You will make the loop in the opposite direction. You now have a double eye pin. Make nine more double eye pins.

2

Take some of the 26-gauge round dead-soft wire and wrap each eye pin. Please wear protective eyewear when wrapping with long lengths of wire to avoid poking yourself in the eye. Pause every few wraps to be sure that the wraps are uniform. Snip the ends and file so that the edges are smooth. *Pinky finger test:* If you can run your pinky finger over the edges of your work and not get scratched, your work is good!

3



You can either use the extra long round nose pliers or your thumb and forefinger for this step. You must create a wave in the eye pins. This can be done either by pressing either end the wire in opposite directions using your fingers or by pressing the wire gently against the pliers to create a curve. Make waves in each of the eye pins. Try to them as uniform as possible.

4

Making the sapphire links.
Cut a 12" length of 26-gauge round half-hard sterling wire. About 1" down from the end of the wire, make a 90° bend.

5

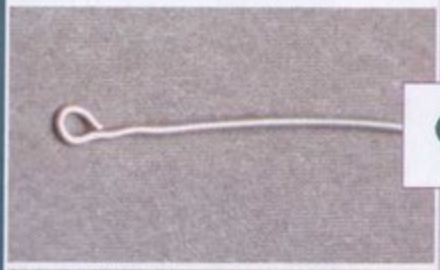
Put one tip of your round nose pliers on the inside of the bend and one tip on the outside of the bend. Take the extended wire over the pliers, creating a loop. Bring it around the entire pliers tip again to form a second loop. Remove the pliers. Use your flat nose pliers to hold the now created double loop while you take the end of that wire you used to make the double loop and wrap it 3 times around the wire. Snip off the excess as close as you can.

6

7 Thread on the sapphire bead.

8 Hold the wire coming out of the bead with your chain nose pliers. The pliers should be touching the top of the bead where the wire exited. Make a 90° bend in the wire and create a double loop just as you did before. Once again, use your flat nose pliers to hold the now created double loop while you take the end of the wire and wrap three times to "close" the loop.

Make nine of these sapphire and sterling silver links, using more 26-gauge wire as needed.



9 **Making the sapphire drops.**
Take a length of 26-gauge round wire. Create a small loop in one end with your round nose pliers. Hammer just once with your chasing hammer.

10 Thread on a sapphire bead and make a 90° bend in the wire and create a double loop just as you did before. Use your flat nose pliers to hold the now created double loop while you take the end of the wire and wrap three times to "close" the loop.

11 **Making the clasp.**
Cut a 3" length of 16-gauge round sterling wire. Hammer one end three times. Place this flattened end close to the end of the round nose pliers so that the edge of the wire is just inside the pliers; turn the pliers once, overhand, to make a tiny loop.

12 Place your long round nose pliers underneath the tiny loop and press the extended wire onto the round nose pliers at its widest point, creating a curve.

On the other end, place the extended wire into the small round nose pliers and make one overhand turn. Loosen your grip on the pliers, swivel the pliers back to original position in the loop and make another overhand turn, creating a spiral. Hammer gently to flatten a bit. File any rough edges. Gently hammer the rounded bend at the top of the clasp.

Assembling the necklace.
Start with one of the wave links. Attach a 4mm jump ring to the wave link. Close the jump ring by holding each side of the jump ring with pliers. With the jump ring "O" facing you, push the pliers in your right hand away from you while pulling the pliers in your left hand toward you. Then reverse direction of your hands as you push the ends together to close it. Never merely yank open a jump ring, or force it shut with one motion. That will distort the shape of the ring. File any burrs.

Attach a jump ring to the other end of the wave and thread on one of the sapphire links before closing the jump ring. Attach another jump ring, and then thread another wave link.

Try to keep the waves going in the same direction on one side and have the links on the other side of the necklace mirror the first side. This will create a very graceful line on the neck. Continue this pattern until the entire wave necklace is assembled.

Attach 4mm jump rings on the jump rings on each side of the center sapphire link. Thread a sapphire drop onto each of these jump rings. Repeat on each of the next closest jump rings.

Attach a 6mm jump ring and then the clasp to one end of the necklace and 6mm jump ring to the other end of the necklace.

Tumble for about 30 minutes and enjoy the beautiful necklace that you have created.

MARIE LEE CARTER
finds inspiration everywhere, including iron gates on many windows on Park Avenue, and twists and turns of various headboards and chair backs. Her part-time business is e-mail based. She can be reached at marielcarter@verizon.net

tear drops

Gemstone briolette earrings.

SKILL LEVEL ๑๑๑

BY MELODY MACDUFFEE

Easier than they look, these earrings consist of fine wires twisted together to give them strength while maintaining an illusion of delicacy. Gemstone briolettes work especially well on the graceful outer curves, but beads of other shapes can be used very successfully as well.

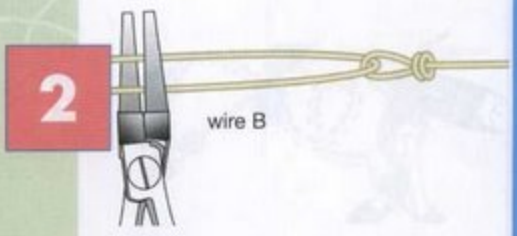
Photo by Frank DeSantis.

TOOLS & SUPPLIES

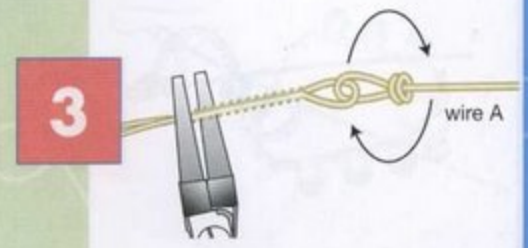
- 2 citrine teardrops, 12x12mm
- 4 citrine rounds, 4mm
- 2 peridot rectangles, 3x4mm
- 6 peridot teardrops (side-drilled), 4x6mm
- 6 blue quartz teardrops (side-drilled), 4x6mm
- 2 blue quartz rounds, 4mm
- 6" of 22-gauge gold-filled wire
- 4' of 26-gauge gold-filled wire (or 28-gauge Craft Wire)
- 2 gold-filled head pins
- 1 pair of gold-filled ear wires
- Wire cutters
- Flat nose pliers
- Round nose pliers

Cut the 22-gauge wire (wire A) in half and set one piece aside. Wire wrap a loop at each end then attach an ear wire to one of the end loops.

Cut the 26-gauge wire (wire B) in half, fold each in half and set one piece aside. Hang wire B from the bottom loop of wire A. Using flat nose pliers, hold both B-wires just slightly apart at a point about ½-¾" from the fold.

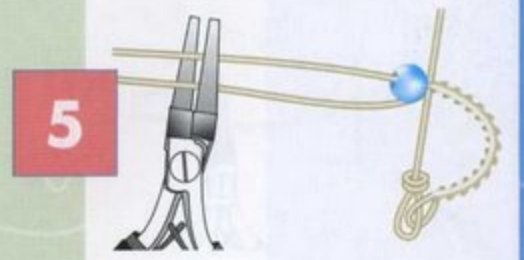


With your other hand, twist wire A 10–14 times until the B-wires have an attractive, fairly even twist. *Be careful, over-twisting will cause the wire to become brittle and weak.*

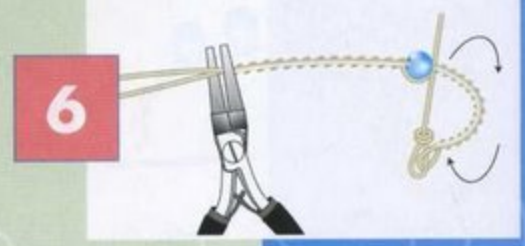


Curve the twisted B-section *away* from wire A, then back toward it. Separate the 2 B-wires, placing wire A in between.

Thread a 4mm blue bead onto one of the B-wires. Push it firmly, but gently, up to wire A, until the untwisted portion of wire B is covered.



With flat nose pliers, hold both wires just slightly apart at a point about 1¼" from the blue bead. With your other hand, twist the curved wire 20–30 times, until the 2 B-wires are attractively twisted.

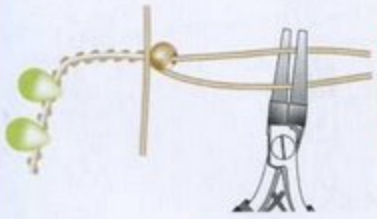


7 Use a round nose pliers, to form a 4–5mm loop in the twisted portion of the wire.

8 Thread a peridot teardrop onto the twisted wire. Hold the 2 B-wires with flat nose pliers, ⅛" from the teardrop.

9 Twist the whole piece 3–4 times. Repeat Step 8 two more times, adding 2 more peridot teardrops. Curve the twisted B section *away* from wire A, then back toward it.

10 Separate the 2 B-wires, placing wire A in between. Thread a 4mm citrine bead onto 1 of the B-wires. Push it firmly, but gently, up to wire A, until the untwisted portion of wire B is covered.

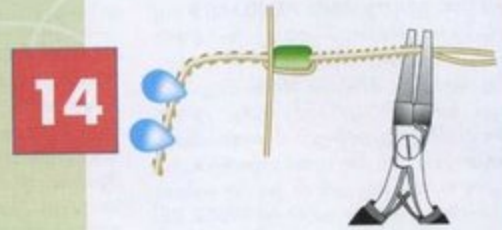


11 With flat nose pliers, hold both wires just slightly apart at a point about 1¼" from the citrine bead. With your other hand, twist the curved wire 20-30 times, until the 2 B-wires are attractively twisted.

12 Repeat Steps 7–9, substituting blue teardrops for the peridot.

Separate the 2 B-wires, placing wire A in between. Thread a peridot rectangle onto 1 of the B-wires. Push it firmly, but gently, up to wire A, until the untwisted portion of wire B is covered.

Using flat nose pliers, hold both wires just slightly apart at a point about 1" from the rectangle bead. With your other hand, twist the wire until the 2 B-wires are attractively twisted, reducing the number of twists appropriately for the wire length.



Add a citrine to one of the B wires. With flat nose pliers, grasp the B-wires about ⅛" from the citrine and twist, then curve the B-section back toward wire A. Wrap both B-wires several times around the lower part of the wire A loop.

Clip the wire ends and gently tuck them in with your flat-nose pliers to prevent any rough edges.

Thread the large citrine teardrop onto a head pin. Begin a wire wrapped loop at the top of the tear drop, capturing the bottom loop of wire A in the new loop. Complete the wrapped loop then trim the excess wire. Gently tuck in the cut end of the wire with flat nose pliers to eliminate any rough edges.

Repeat Steps 1-16 for the other earring.

Melody MacDuffee

began as a jewelry artist in the medium of crochet. Over the years, she expanded her love of tiny hooks to include equally tiny beads, needles, and lengths of wire. She works part-time in a state-of-the-art bead store in Mobile, Alabama, where she organizes and teaches classes on a variety of beading techniques. She is widely published in both bead and crochet publications.

Bride's Bloom

Pearl and wire necklace with a twist.

SKILL LEVEL ⟆⟆

BY MELODY MACDUFFEE

This seemingly intricate beauty is surprisingly easy to make. The forgiving, free-style technique allows the beads and wire to take you where they want to go and look best. These instructions will get you started and finished — the creative design in the middle is up to you!

TOOLS & SUPPLIES

- 5-7 crystal AB Swarovski® bicone beads, 4mm
- 25 pearls, 5-6mm
- 28-30 pearls, 3-4mm
- 8-10 crystal AB fire-polished beads, 4mm
- 40-44 crystal AB fire-polished beads, 3mm
- Silver-lined crystal (or crystal AB) seed beads, 2 grams
- 6-gauge sterling dead-soft wire (or 28-gauge craft wire), 4 yards
- Lobster claw clasp
- 6mm ring or extender chain
- Wire cutters
- Flat nose pliers

Photo by Frank DeSantis.

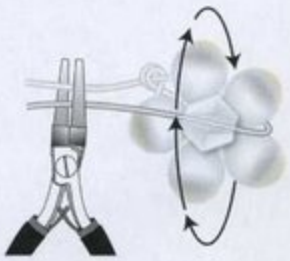
1

Making the flowers.
Cut the wire in half and set one piece aside.

To make the first (center) flower, thread 5 pearls (size 5–6mm) onto the wire. Center the pearls on the wire then form them into a ring.

2

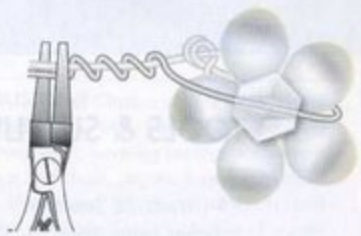
Wrap 1 end of the wire all the way around the other, as close to the ring of pearls as possible, securing the ring.



3

Bring 1 end of the wire up behind the ring and over the top of it, between the 3rd and 4th pearls. Add a bicone bead and bring the wire down across the front of the ring, so the bicone rests across the center hole. Align this wire beside the other one.

With your left hand, hold the two wires just slightly apart with flat-nose pliers, about ½" from the base of the flower.

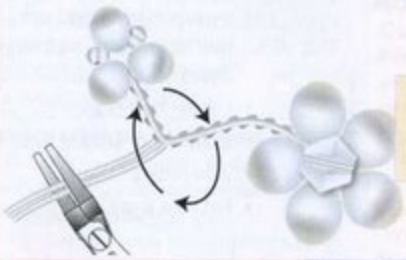


4

Stems and branches.
Give the flower 8–12 twists with your right hand, until the bicone is secure and the stem is attractively twisted up to the pliers. This is the beginning of your main stem. *Warning: twisting too far will cause the wire to get brittle, and not twisting far enough will cause the it to be too flimsy.*

5

To make the first crystal loop motif, add the following to one wire: one 3mm bead, one seed bead, one 3mm, another seed bead, and another 3mm; let the other wire dangle out of your way. Slide the beads down to within ⅜" of the twisted stem.



6

Holding the beads between the thumb and forefinger of your right hand (to hold them in place), loop the wire down around to the main (already twisted) stem. Hold both parts of the wire just slightly apart with flat nose pliers, at the point where the wires join the main stem. Twist the bead motif 6–9 times with your right hand, forming the first branch.

Line up the two ends of wire and hold them just slightly apart with flat-nose pliers, at the point where you want to begin your next branch — you are continuing your main stem now. Keep in mind that you will lose 15–20 percent of the length of a given branch or stem when you twist it.

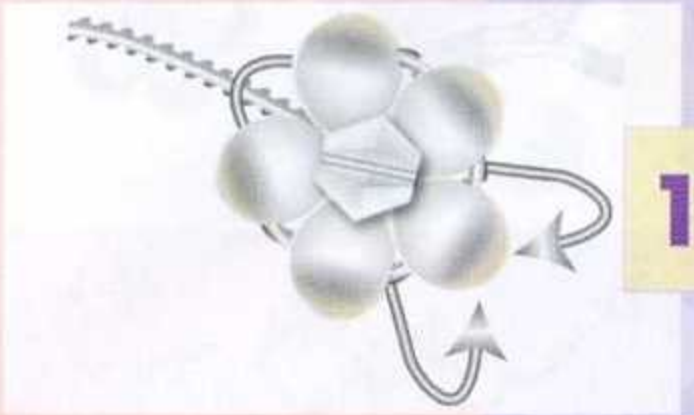
Building your design.
Continue creating branches and any of the following design patterns: pearl loop, single crystal, or pearl and crystal double. Use these designs at intervals, until you have reached the halfway point on your necklace.

Pearl loop motif: Add a pearl (3–4mm), a seed bead, a pearl, a seed bead, and a pearl. Loop the wire down around to the main stem. Hold both parts of the wire just slightly apart with flat nose pliers, at the point where the wires join the main stem. Twist the bead motif 6–9 times with your right hand.

Single crystal motif: Add a seed bead, a crystal (4mm), and a seed bead. Loop the wire down around to the main stem. Hold both parts of the wire just slightly apart with flat nose pliers, at the point where the wires join the main stem. Twist the bead motif 6–9 times with your right hand.

Pearl and crystal double-motif: Add a pearl (3–4mm), a seed bead, a pearl, a seed bead, and a pearl. When twisting, hold the wires only about halfway down toward the main stem. Add a seed bead, a crystal (3mm), and a seed bead. This time, when twisting, hold the wires at the point where you stopped twisting before. Finally, hold the wires at the point where they rejoin the main stem, then twist the whole double-motif branch.

Twist the main stem up to the point where you will add the clasp. Thread both ends of the wire through the loop on one side of your clasp then twist the ends around the stem several times to anchor. Clip the ends with wire cutters then tuck in the cut ends with flat nose pliers, so there are no rough ends sticking out.



10

To begin the other side of your necklace, double the second 2-yard length of wire. Place the fold of the wire over the main stem, right up against the first flower motif. Bring both ends of the wire up through the center of the flower, with one wire on either side of the center bicone bead.

Wrap the ends down around the free side of the flower, leaving a pearl between them. Go back up through the flower's center, to secure it. The junction should have the same stiffness as the rest of the necklace — in other words, it should not flap like a hinge.

Continue creating your design, as you did for the first half of your necklace. Once you reach the desired length, secure the other half of your clasp as before.

Melody MacDuffee

began her life as a jewelry artist in the medium of crochet. Over the years, as various forms of beading caught her fancy, she gradually expanded her love of her tiny hooks to include a love of equally tiny beads, needles, and lengths of wire. She works part-time in a state-of-the-art bead store in Mobile, Alabama, where she organizes and teaches classes on a variety of beading techniques. She is widely published in both bead and crochet publications.